

Application No.: 09/740215

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Listing of Claims

Claims 1-30 (Cancelled)

31. (Withdrawn) A method of making a retroreflective article, comprising the steps of:
providing an elongate strip of a retroreflective sheeting on a release liner, wherein the sheeting has a first major viewing surface and a second major opposing adhesive surface protected by the liner;
cutting the elongate strip of retroreflective sheeting into smaller discrete segments on the liner;
stretching the liner in at least one direction to separate segments; and
attaching the first major viewing surface of the sheeting to a second major surface of an elongate strip of a carrier having a first major surface and the second major surface.
32. (Withdrawn) A method of making a retroreflective article, comprising the steps of:
providing an elongate strip of a retroreflective sheeting on a release liner, wherein the sheeting has a first major viewing surface and a second major opposing adhesive surface protected by the liner;
cutting the elongate strip of retroreflective sheeting into smaller discrete segments on the liner;
removing selected portions of the sheeting to separate the remaining segments; and
attaching the first major viewing surface of the sheeting to the second major surface of an elongate strip of a carrier having a first major surface and a second major surface.
33. (Withdrawn) The method of claim 32, and further comprising attaching the first major viewing surface of the selected portions to the second major surface of a second elongate strip of a carrier having a first major surface and a second major surface.

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34. (Withdrawn) The method of claim 32, wherein the segments of retroreflective sheeting are separated by a gap of between 4 mm and 100% of a length of the shortest adjacent sheeting segment.
35. (Withdrawn) The method of claim 32, wherein the second major opposing surface of the sheeting comprises an adhesive and the adhesive is protected by a release surface.
36. (Withdrawn) The method of claim 32, wherein the method further includes the steps of providing an elongate strip of a second retroreflective sheeting, cutting the elongate strip of second retroreflective sheeting into smaller discrete segments, and attaching the discrete segments of retroreflective sheeting to the carrier.
37. (Withdrawn) The method of claim 32, and further comprising the steps of:
cutting a non-retroreflective sheeting into smaller discrete segments; and
adhering the non-retroreflective sheeting segments to the liner.
38. (Withdrawn) The method of claim 37, wherein at least some of the non-retroreflective sheeting are fluorescent.
39. (Withdrawn) The method of claim 32 wherein at least some of the retroreflective segments are fluorescent.
40. (Withdrawn) The method of claim 39, wherein the retroreflective sheeting and second retroreflective sheeting are alternated along the carrier.
41. (Withdrawn) A method of making a retroreflective article, comprising the steps of:
unwinding a continuous strip of retroreflective sheeting;
sealing crossweb lines;
cutting through the crossweb lines; and

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adhering cut pieces to an elongate release liner, wherein the cut pieces are spaced from one another on the elongate release liner.

42. (Withdrawn) A method of applying a retroreflective article to a flexible substrate, comprising the steps of:

providing an elongate strip of an article having (i) a carrier with a first major surface and a second major surface and (ii) a plurality of discrete segments of a retroreflective sheeting having a first major viewing surface and a second major opposing adhesive surface protected by a release surface, wherein the first major viewing surface of the sheeting is attached to the second major surface of the carrier;

exposing the second major opposing adhesive surface of the sheeting; and

applying the adhesive surface of the sheeting to the flexible substrate to thereby adhere the sheeting to the substrate.

43. (Withdrawn) The method of claim 42, wherein exposing the second major surface comprises unrolling a roll containing the plurality of discrete segments.

44. (Withdrawn) The method of claim 42, wherein the exposing the second major surface comprises removing a release liner prior to applying the retroreflective article.

45. (Withdrawn) The article of claim 42, and further comprising partially tearing the carrier along a plurality of discontinuities during the step of applying the adhesive surface of the sheeting to the flexible substrate.

46. (Withdrawn) The method of claim 42, further comprising the additional step of: removing the carrier from the applied article to thereby expose the first major viewing surface of the sheeting.

47. (Withdrawn) The method of claim 46, wherein the carrier is extensible and permits the article to be positioned along an irregular surface of a substrate or along a curved path.

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Claims 48-52 (Cancelled)

53. (Withdrawn) A method of applying a retroreflective article to a flexible substrate, comprising the steps of:

providing an elongate strip of a conspicuity article having (i) a carrier with a first major surface and a second major surface and (ii) a plurality of discrete segments of a retroreflective sheeting having a first major viewing surface and a second major opposing adhesive surface including a tackifier and being protected by a release surface, wherein the first major viewing surface of the sheeting is attached to the second major surface of the carrier;

exposing the second major opposing adhesive surface of the sheeting; and

applying the adhesive surface of the sheeting to the flexible substrate.

54. (Withdrawn) The method of claim 53, wherein the adhesive comprises a hot melt adhesive.

Claims 55-62 (Cancelled)

63. (Previously presented) A retroreflective article having a neutral axis a distance y_n from a first major surface of the final article, and adapted for attachment to a flexible substrate having an anticipated bend radius (r), the article comprising:

an elongate carrier;

a plurality of discrete segments (of length l) of retroreflective sheeting having a first major viewing surface and a second major opposing surface opposed to the first major viewing surface, the first major viewing surface being disposed on the elongate carrier; and

wherein the discrete segments are spaced apart by a distance at least $\frac{y_n}{r} \times l$ and the second

major surface of the discrete segments comprises an adhesive.

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64. (Previously presented) A retroreflective article having an extensional stiffness, A , bending rigidity, D , and a neutral axis a distance y_n from a first major surface of the final article, and adapted for attachment to a flexible substrate having an anticipated bend radius (r), the article comprising:

an elongate carrier;

a plurality of discrete segments (of length l) of retroreflective sheeting having a first major viewing surface and a second major opposing surface opposed to the first major viewing surface, the first major viewing surface being disposed on the elongate carrier; and

wherein l is selected based upon calculating $\sqrt{\left(\frac{D}{A}\right)\left(\frac{r}{y_n}\right)}$ and wherein the second major surface of the discrete segments comprises an adhesive.

65. (Withdrawn) A method of applying a retroreflective article to a substrate, comprising the steps of:

providing an elongate strip of a conspicuity article having (i) an extensible carrier with a first major surface and a second major surface and (ii) a plurality of discrete segments of a retroreflective sheeting having a first major viewing surface and a second major opposing adhesive surface being protected by a release surface, wherein the first major viewing surface of the sheeting is attached to the second major surface of the carrier;

exposing the second major opposing adhesive surface of the sheeting; and

applying the adhesive surface of the sheeting to the substrate while stretching the carrier to direct application of the segments upon the substrate.

66. (Currently Amended) A retroreflective article comprising:

an elongate carrier having first and second major surfaces;

a plurality of discrete segments of retroreflective sheeting disposed on the carrier wherein

(a) at least some of the segments are separate from an adjacent segment by a gap of a minimum length to prevent adjacent segments from contacting each other when the article is bent by a predetermined bend radius(r), and (b) the segments of retroreflective sheeting have a first major

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viewing surface contacting the second major surface of the carrier, and (c) the segments of retroreflective sheeting have a second major opposing surface opposed to the first major viewing surface, the second major opposing surface comprising an adhesive.

67. (Original) The retroreflective article of claim 66, wherein the second major surface of the elongate carrier is an adhesive surface.

68. (Original) The retroreflective article of claim 66, wherein the elongate carrier extends past the periphery of the discrete segments of retroreflective sheeting.

69. (Original) The article of claim 66, wherein the plurality of discrete segments form a pattern.

70. (Original) The article of claim 66, wherein the plurality of discrete segments form a letter.

71. (Previously presented) The article of claim 66, wherein
the first major surface of the carrier comprises a release surface,
the adhesive of the second major opposing surface of the sheeting is co-terminus with the boundaries of the segment, and
the article is provided in the form of a roll and the adhesive surface of the sheeting is adjacent the release surface of an adjacent layer of the roll.

72. (Original) The article of claim 66 wherein:
the first major viewing surface of the retroreflective sheeting is attached to the second major surface of the carrier with a second adhesion force,
the retroreflective sheeting provides a first adhesion force when attached to a substrate,
and
the first adhesion force is greater than the second adhesion force.

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73. (Original) The article of claim 72, wherein the carrier includes a plurality of discontinuities, and wherein the carrier has strength designed to withstand the second adhesion force.

74. (Cancelled)

75. (Previously presented) The article of claim 66, wherein the second major opposing surface of the retroreflective sheeting further comprises an adhesive adjacent release surface,

the first major viewing surface of the retroreflective sheeting is attached to the second major surface of the carrier with a second adhesion force,

the retroreflective sheeting is attached to the release surface with a third adhesion force, and

the second adhesion force is greater than the third adhesion force.

76. (Original) The article of claim 66, wherein the carrier is extensible.

77. (Original) The article of claim 66, wherein the sheeting comprises prismatic retroreflective sheeting.

78. (Original) The article of claim 66, wherein the sheeting comprises encapsulated retroreflective sheeting.

79. (Original) The article of claim 66, wherein the edges of the sheeting are sealed.

80. (Original) The article of claim 66, wherein the article is adhered to a flexible substrate.

81. (Original) The article of claim 80, wherein the substrate is shaped as a curve.

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82. (Original) The article of claim 80, wherein the substrate is shaped as a compound curve.
83. (Original) The retroreflective article of claim 80, wherein the gap is from 2 to 4 times the thickness of the substrate
84. (Original) The article of claim 66, wherein the sheeting segments are between 25 and 75 mm long and the segments are separated by a gap of at most about 40 percent of the segment length.
85. (Original) The article of claim 66, wherein the sheeting segments are between 25 and 250 mm long and the segments are separated by a gap of at most about 40 percent of the segment length.
86. (Original) The retroreflective article of claim 66, wherein the gap is at least 4 mm.
87. (Original) The article of claim 66, wherein at least some of the plurality of discrete segments have different colors.
88. (Original) The article of claim 66, and further comprising a plurality of non-retroreflective segments.
89. (Original) The article of claim 88, wherein at least some of the non-retroreflective segments are fluorescent.
90. (Original) The article of claim 66, wherein at least some of the segments are fluorescent.
91. (Original) The article of claim 66, wherein at least some of the retroreflective segments have indicia disposed relative to viewing surfaces of the segments.

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92. (Original) The article of claim 66, wherein the segments are shaped identically.
93. (Original) The article of claim 66, wherein at least a plurality of the segments are identical.
94. (Original) The article of claim 66, wherein the plurality of segments forms a repeating pattern of similarly shaped segments.
95. (Original) The article of claim 66, wherein the segments are spaced from one another by a distance that is selected to inhibit wrinkling when the article is applied to a substrate and the substrate is bent around a selected radius.
96. (Original) The article of claim 66, wherein the segments are sized to inhibit wrinkling when the article is applied to a substrate and the substrate is bent around a selected radius.
97. (Original) The article of claim 66, wherein materials of the article are chosen to inhibit wrinkling when the article is applied to a substrate and the substrate is bent around a selected radius.
98. (Currently Amended) A retroreflective article, comprising:
an elongate carrier having a first major surface and a second major adhesive surface; and
a plurality of discrete segments of retroreflective sheeting disposed on the elongate carrier, the segments being spaced apart from one another by substantially the same distance to prevent contacting one another while the article is bent about a predetermined [amount,] bend radius (r), the discrete segments of retroreflective sheeting having (a) a first major viewing surface in contact with the second major adhesive surface of the carrier, and (b) a second major opposing surface comprising an adhesive.

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99. (Original) The article of claim 98, wherein the article is adhered to a vehicle.
100. (Original) The article of claim 98, wherein the article is adhered to a traffic cone.
101. (Original) The article of claim 98, wherein the article is adhered to a traffic barrel.
102. (Original) The article of claim 98, wherein the article is adhered to a garment.
103. (Currently Amended) A retroreflective article for use on a flexible substrate, the article comprising:
- a common carrier; and
 - a plurality of discrete retroreflective sheeting segments forming a repetitive sequential linear pattern and secured in alignment on the common carrier, wherein the common carrier is affixed to a front face of each segment, wherein the back face of each segment comprises an adhesive that is co-terminus with the boundaries of the segment and wherein the adjacent segments are substantially equally spaced apart from each other.